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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/706,187

11/12/2003

Andrew Joo Kim

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EXAMINER

RIZK, SAMIR WADIE

ART UNIT

PAPER NUMBER

2112

MAIL DATE

DELIVERY MODE

04/13/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/706,187	Applicant(s) KIM ET AL.	
	Examiner SAM RIZK	Art Unit 2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-13 is/are allowed.
- 6) ☒ Claim(s) 14 is/are rejected.
- 7) ☒ Claim(s) 15-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

- Response to the applicant's amendment dated 1/13/2010
- Claims 1-20 are pending
- Claims 1-13 have been allowed
- Claim 14 has been rejected
- Claims 15-20 are objected to

Response to Arguments

1. Applicant's arguments filed on 1/13/2010, with respect to claims 1-13 have been fully considered and are persuasive. The rejection of claims 1-1 under section(s) 35 USC 102(e) / 103(a) has been withdrawn.
2. Applicant's arguments filed on 1/13/2010 with respect to the rejection(s) of claims 14-20 under sections 102(e) / 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Lashkarian US patent no. 6678339 (Hereinafter Lashkarian).

Allowable Subject Matter

3. Claims 1-13 are allowed.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

4. The independent claims 1, 8 and 11 of the present application teach for example (as per claim 1):

A decoding unit for decoding a received signal comprising:

a plurality of soft-decoders, each soft-decoder operable to sample the received signal at a different time within a symbol period and to output two values for each sample, the first value comprising a preliminary decoded value and the second value comprising an ambiguity indicator; and
a logic device coupled to the each of the soft-decoders, for determining a decoded value for each symbol based on one or more preliminary decoded values and ambiguity indicators.

The foregoing limitations are not found in the prior art of record.

Particularly, none of the prior arts of record teach nor fairly suggest the emphasized limitation as cited in the independent claim 1 that comprises:

A decoding unit for decoding a received signal comprising:

a plurality of soft-decoders, each soft-decoder operable to sample the received signal at a different time within a symbol period and to output two values for each sample, the first value comprising a preliminary decoded value and the second value comprising an ambiguity indicator; and

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a logic device coupled to the each of the soft-decoders, for determining a decoded value for each symbol based on one or more preliminary decoded values and ambiguity indicators.

5. Claims 2-7 depend from claim 1.
6. Claims 9-10 depend from claim 8.
7. Claims 12-13 depend from claim 11.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claim 14 is rejected under 35 U.S.C. 102(e) as being anticipated by Lashkarian US patent no. 6678339 (Hereinafter Lashkarian).
9. In regard to claim 14, Lashkarian teaches:
 - (Currently Amended) A method for decoding a received signal comprising:
receiving a signal;
 - estimating an optimal timing offset on a symbol-by-symbol basis; and
 - decoding the received signal using generalized maximum likelihood estimation with the estimated optimal timing offset.

(Claim1 in Lashkarian)

Allowable Subject Matter

10. Claims 15-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Rizk whose telephone number is (571) 272-8191. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman can be reached on (571) 272-3644. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR

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only. For more information about PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronics Business Center (EBC) at 866-217-9197 (toll-free)

/Sam Rizk/

Primary Examiner, Art Unit 2112